

8/26/13 – Opener:

Write an algebraic expression for each word phrase:

How is $4 \times 4 \times 4 \times 4 \times 4$ written using an exponent?

$$4^5 = 1024$$

How would you read (say) the exponential form?

$$4 \wedge 5 = 1024$$

What does it simplify to?

$$\begin{array}{r} 4 \\ \hline 16 \\ 4 \\ \hline 64 \\ 4 \\ \hline 256 \\ 4 \\ \hline 1024 \end{array}$$

Tuesday, 8/27/13 – Agenda

- Opener
- Review Homework – Section 1.2 p13-15
- Worksheet 1-2 Reteaching & Practice

Homework:

Finish Worksheet (both sides)

RETEACHING 1-11 ODDS
PRACTICE 1-11 } ODDS
17-23 }

1-2 Reteaching

Order of Operations and Evaluating Expressions

Exponents are used to represent repeated multiplication of the same number. For example, $4 \times 4 \times 4 \times 4 \times 4 = 4^5$. The number being multiplied by itself is called the base; in this case, the base is 4. The number that shows how many times the base appears in the product is called the exponent; in this case, the exponent is 5. 4^5 is read *four to the fifth power*.

Problem

How is $6 \times 6 \times 6 \times 6 \times 6 \times 6 \times 6$ written using an exponent?

The number 6 is multiplied by itself 7 times. This means that the base is 6 and the exponent is 7. $6 \times 6 \times 6 \times 6 \times 6 \times 6 \times 6$ written using an exponent is 6^7 .

EXONENT
7
6
BASE

Exercises

Write each repeated multiplication using an exponent.

1. $4 \times 4 \times 4 \times 4 \times 4$

2. $2 \times 2 \times 2$

3. $1.1 \times 1.1 \times 1.1 \times 1.1 \times 1.1$

4. $3.4 \times 3.4 \times 3.4 \times 3.4 \times 3.4 \times 3.4$

5. $(-7) \times (-7) \times (-7) \times (-7)$

6. $11 \times 11 \times 11$

3.4^6

$(-7)^4$

Write each expression as repeated multiplication.

7. 4^5

8. 5^4

9. 1.5^2

10. $\left(\frac{2}{7}\right)^4$

$\left(\frac{2}{7}\right) \times \left(\frac{2}{7}\right) \cdot \left(\frac{2}{7}\right) \cdot \left(\frac{2}{7}\right)$

11. x^7

12. $(5n)^5$

$(5n) \cdot (5n) \cdot (5n) \cdot (5n) \cdot (5n) \dots$

13. Trisha wants to determine the volume of a cube with sides of length s . Write an expression that represents the volume of the cube.

P
E
MD
AS

1-11 ODDS

17-23 ODDS

Name _____ Class _____ Date _____

1-2

Practice

Form G

Order of Operations and Evaluating Expressions

Simplify each expression.

1. 4^4

2. 5^5

3. 1^{10}

4. $\left(\frac{5}{6}\right)^2$

5. $(1+3)^2$

6. $(0.1)^3$

7. $5+3(2)$

8. $\left(\frac{16}{2}\right)-4(5)$

9. $4^4(5)+3(11)$

10. $17(2)-4^2$

11. $\left(\frac{20}{5}\right)^3-10(3)^2$

12. $\left(\frac{27-12}{8-3}\right)^3$

13. $(4(5))^3$

14. $2^5-4^2\div 2^2$

15. $\left(\frac{3(6)}{17-5}\right)^4$

Evaluate each expression for $s = 2$ and $t = 5$.

16. $s+6$

17. $5-t$

18. $11.5+s^2$

19. $\frac{s^4}{4}-17$

20. $3(t)^3+10$

21. s^3+t^2

22. $-4(s)^2+t^3\div 5$

23. $\left(\frac{s+2}{5t^2}\right)^2$

24. $\left(\frac{3s(3)}{11-5(t)}\right)^2$

25. Every weekend, Morgan buys interesting clothes at her local thrift store and then resells them on an auction website. If she brings \$150.00 and spends s , write an expression for how much change she has. Evaluate your expression for $s = \$27.13$ and $s = \$55.14$.